

designing their systems, we also decline to adopt a specific cap on non-vehicular location services. Non-multilateration LMS operators, on the other hand, are specifically prohibited from offering non-vehicular location services.¹¹² The Commission adopted this restriction because the spectrum occupied by non-multilateration LMS operators has a heavier concentration of amateur radio operators, Part 15 devices and federal government radiolocation operations than do other portions of the band.¹¹³ We continue to believe that this approach minimizes the potential for interference and we therefore decline to revise our rules.

F. Petitions for Reconsideration of Order on Reconsideration

65. On May 30, 1996, three parties filed petitions for reconsideration of the *Order on Reconsideration*, which, as noted above, had resolved certain issues regarding grandfathering of existing LMS systems that had been raised on reconsideration of the *LMS Report and Order*. Those petitioners, Amtech Corporation, Pinpoint Communication Networks, Inc., and Teletrac License, Inc., seek reconsideration of different aspects of the *Order on Reconsideration*.¹¹⁴ For the reasons detailed below, each of these petitions is denied, except that we will make a technical correction to the rules requested by Amtech.

66. *Amtech Petition*. Amtech, a non-multilateration LMS provider, asserts that the Commission should revise the emission mask specifications of Section 90.209 as applied to transmitters with less than two watts output power. Specifically, Amtech proposes that the attenuation for out-of-band emissions produced by non-multilateration transmitters of two watts or less be specified as $43 + 10 \log(P)$ rather than $55 + 10 \log(P)$. Amtech contends that it has employed this limit for a number of years and that it is the same limit applied in other contexts for systems that can have greater height and power than non-multilateration systems. Amtech argues that use of the stricter $55 + 10 \log(P)$ standard imposes significant costs and is not necessary due to the limited interference potential of non-multilateration systems.¹¹⁵ We are not persuaded that Amtech has presented sufficient evidence to support its contention that the standard adopted in the *LMS Report and Order* is overly restrictive. We continue to believe that that standard is the most appropriate given the disparate users of the 902-928 MHz band.

67. Amtech also urges the Commission to revise the relevant emission mask rule (formerly Section 90.209, now Section 90.210) to conform with the rule as originally adopted in the *LMS Report and Order*, wherein the attenuation applied at the edge of the licensee's LMS subband rather than at

¹¹²47 C.F.R. § 90.353(a)(8).

¹¹³*LMS Report and Order* at 4708-09.

¹¹⁴Oppositions to these petitions were filed on July 5, 1996 by the Consumer Electronic Manufacturers Association (opposes Pinpoint petition), Metricom (opposes Pinpoint and Teletrac petitions), the Part 15 Coalition (opposes all three petitions), SpectraLink Corporation (opposes Teletrac and Pinpoint petitions), and Symbol Technologies (opposes Pinpoint petition). Amtech filed a Reply to the Part 15 Coalition Opposition on July 15, 1996. Pinpoint and Teletrac each filed a Reply to the relevant Oppositions on July 18, 1996.

¹¹⁵Amtech Petition for Reconsideration of *Order on Reconsideration* at 2-4.

the edge of the "authorized bandwidth."¹¹⁶ We did not intend in the *Order on Reconsideration* to revise the emission mask for non-multilateration LMS licensees and we will make appropriate changes to Section 90.210 to make that clear.

68. *Pinpoint Petition.* Pinpoint, a multilateration LMS licensee, takes issue with the statement in the *Order on Reconsideration* that

[T]he Commission seeks to ensure not only that Part 15 operators refrain from causing harmful interference to LMS systems, but also that LMS systems are not operated in such a manner as to degrade, obstruct or interrupt Part 15 devices to such an extent that Part 15 operations will be negatively affected.¹¹⁷

Pinpoint contends that this language is inconsistent with Part 15 devices' secondary status in the LMS band and that it constitutes a "new standard" with respect to LMS operators' obligations *vis-a-vis* Part 15 devices.¹¹⁸ Pinpoint argues that this "new standard" conflicts with the statement in the *LMS Report and Order* that unlicensed Part 15 devices "may not cause harmful interference to and must accept interference from all other operations in the band."¹¹⁹

69. The language in the Order on Reconsideration cited by Pinpoint does not mean that Part 15 devices are entitled to protection from interference. They are not. Rather, we were explaining our decision to place a testing condition on multilateration LMS licenses. The purpose of the testing condition is to insure that multilateration LMS licensees, when designing and constructing their systems, take into consideration a goal of minimizing interference to existing deployments or systems of Part 15 devices in their area, and to verify through cooperative testing that this goal has been served.

70. *Teletrac Petition.* Teletrac seeks reconsideration of the restriction in Section 90.363(a) of the Commission's Rules, originally adopted in the *LMS Report and Order* and affirmed in the *Order on Reconsideration*, that limits site relocation for grandfathered LMS licensees to within two kilometers of their authorized site. Teletrac submits that removing this restriction would be in the public interest because it would permit grandfathered multilateration LMS operators to improve the efficiency of their systems.¹²⁰ We are not persuaded that Teletrac has raised any new arguments to justify our further reconsideration of this rule. We note that we have granted Teletrac waivers of

¹¹⁶*Id.* at 4-6.

¹¹⁷Pinpoint Petition for Partial Reconsideration of *Order on Reconsideration* at 2 (quoting *Order on Reconsideration* at para. 15).

¹¹⁸*Id.* at 2.

¹¹⁹*Id.* at 3 (citing *LMS Report and Order*, 10 FCC Rcd at 4717).

¹²⁰Teletrac Petition for Reconsideration of *Order on Reconsideration* at 1-11.

this rule with respect to three specific sites.¹²¹

71. Teletrac also urges the Commission to clarify that the Part 15 safe harbor only applies to Part 15 operations authorized pursuant to the Part 15 rules in effect at the time the safe harbor rule was adopted. Teletrac submits that the presumption of non-interference in the safe harbor rule assumes that the Part 15 rules as they existed when the safe harbor rule was adopted will remain in place. Teletrac notes that the Commission has proposed changes to the rules.¹²² Since the time Teletrac raised this point, the Commission has adopted changes to the Part 15 rules. We do not believe that the modified rules conflict with the safe harbor.¹²³ To the extent Teletrac continues to have concerns that the new rules are incompatible with the safe harbor, it should detail those concerns with the Commission.

IV. COMPETITIVE BIDDING FOR MULTILATERATION LMS LICENSEES FURTHER NOTICE OF PROPOSED RULE MAKING

72. In the *LMS Report and Order*, the Commission decided to use competitive bidding to select from mutually exclusive applications for multilateration LMS licenses.¹²⁴ The Commission reached this decision based on its conclusion that the statutory criteria for auctioning licenses, which are set forth in Section 309(j) of the Communications Act, 47 U.S.C. § 309(j), are satisfied. More specifically, the Commission found (1) that its decision to offer multilateration LMS licenses on an exclusive basis makes it likely that mutually exclusive applications for such licenses will be filed; (2) that multilateration LMS licenses will be used principally to offer for-profit, subscriber-based services; and, (3) that the use of competitive bidding for these licenses will promote the public interest objectives set forth in Section 309(j)(3).¹²⁵

73. Under the spectrum plan we adopted in the *LMS Report and Order* and reaffirm here, three blocks of spectrum are allocated to multilateration LMS systems: (1) 904.000-909.750 MHz and 927.750-928.000 MHz; (2) 919.750-921.750 MHz and 927.500-927.750 MHz; and, (3) 921.750-927.250 MHz and 927.250-927.500 MHz. One license will be awarded for each of these spectrum blocks in each of 176 EAs. Thus, there are a total of 528 multilateration LMS licenses to be auctioned.

¹²¹See Teletrac License, Inc. Request for Waiver of Section 90.363(a) of the Commission's Rules, *Order*, 11 FCC Rcd 13184 (WTB 1996) (re Orlando, Florida and Sacramento, California); Teletrac License, Inc. Request for Waiver of Section 90.363(a) of the Commission's Rules, *Order*, 11 FCC Rcd 17499 (WTB 1996) (re New York, New York).

¹²²*Id.* at 11-12 (citing Amendment of Parts 2 and 15 of the Commission's Rules Regarding Spread Spectrum Transmitters, *Notice of Proposed Rule Making*, ET Docket No. 96-8, 11 FCC Rcd 3068 (1996)).

¹²³Amendment of Parts 2 and 15 of the Commission's Rules Regarding Spread Spectrum Transmitters, *Report and Order*, ET Docket 96-8, FCC 97-114 (released Apr. 10, 1997).

¹²⁴*LMS Report and Order* at 4725-26.

¹²⁵*Id.* As part of this determination, the Commission also decided that applications for non-multilateration LMS licenses would not be selected by competitive bidding because, unlike multilateration LMS licenses, non-multilateration LMS licenses will be offered on a shared basis -- a licensing scheme that does not allow for mutual exclusivity among applicants.

74. We anticipate conducting the auction for multilateration LMS frequencies in conformity with the general competitive bidding rules proposed to be included in Part 1, Subpart Q of the Commission's Rules, and substantially consistent with the auctions that have been employed in other wireless services.¹²⁶ We propose to adopt for the LMS auction the simultaneous multiple round competitive bidding design used in the PCS auctions. Multiple round bidding should provide more information to bidders than single round bidding during the auction about the values of the licenses. We seek comment on this proposal. We also tentatively conclude that the LMS auction will follow the general competitive bidding procedures of Part 1, Subpart Q. We seek comment on this tentative conclusion.¹²⁷

75. *Small Businesses.* Our auction rules for other services generally include special provisions -- such as bidding credits and installment payments -- designed to fulfill our statutory mandate to ensure that small businesses have the opportunity to participate in the provision of spectrum-based services.¹²⁸ In the *Second Memorandum Opinion and Order* in the competitive bidding docket, we indicated that we would establish definitions for "small business" on a service-by-service basis.¹²⁹ We therefore seek comment regarding the establishment of a small business definition for multilateration LMS. Commenters should discuss the level of capital commitment that is likely to be required to purchase a multilateration LMS license at auction and create a viable business. We also seek comment on what small business provisions should be offered to multilateration LMS small business entities. Our goal, should we adopt a special provision(s) for one or more categories of small businesses, will be to remove entry barriers so as to ensure the participation of small businesses in the auction and in the provision of service. If we adopt special provisions for small businesses, we propose that our unjust enrichment rules apply as set forth in Part 1, Subpart Q.¹³⁰

76. In other services we also adopted attribution rules for purposes of determining small business status. We tentatively conclude that for LMS we should attribute the gross revenues of all controlling principals in the small business applicant as well as its affiliates. We seek comment on this tentative conclusion. We also seek comment on whether small business provisions are sufficient to promote participation by businesses owned by minorities, women, or rural telephone companies. To the extent that commenters propose additional provisions to ensure participation by minority-owned or women-owned businesses, we ask them to address how such provisions should be crafted to meet

¹²⁶See Amendment of Part 1 of the Commission's Rules -- Competitive Bidding, *Order, Memorandum Opinion and Order and Notice of Proposed Rule Making*, WT Docket No. 97-82, 12 FCC Rcd 5686 (1997).

¹²⁷The Commission makes no representations or warranties about the use of this spectrum for particular services. Applicants should be aware that an FCC auction represents an opportunity to become an FCC licensee in this service, subject to certain conditions and regulations. An FCC auction does not constitute an endorsement by the FCC of any particular services, technologies or products, nor does an FCC license constitute a guarantee of business success. Applicants should perform their individual due diligence before proceeding as they would with any new business venture.

¹²⁸See, e.g., 47 U.S.C. § 309(j)(4)(D).

¹²⁹*Second Memorandum Opinion and Order*, PP Docket No. 93-253, 9 FCC Rcd 7245, 7268-69 (1994).

¹³⁰47 C.F.R. § 1.2111.

the relevant standards of judicial review.¹³¹

77. *Partitioning and Disaggregation.* We propose to allow multilateration LMS licensees to partition their geographic license area and disaggregate portions of their spectrum. We anticipate that this will, among other things, help to remove entry barriers for small businesses. We seek comment on this proposal.

78. If we determine that special provisions for small business are appropriate for LMS auctions, we tentatively conclude that a qualified small business that applies to partition or disaggregate its license to a non-small business entity should be required to repay any benefits it received from special small business provisions. We seek comment on the type of unjust enrichment requirements that should be placed as a condition for approval of an application to partition or disaggregate a license owned by a qualified small business licensee to a non-small business entity. This could include, for example, repayment of any bidding credit that we may adopt for small businesses, and would be applied on a proportional basis. Similarly, if a small business licensee partitions or disaggregates to another qualified small business that would not qualify for the same level of bidding credit, the transferring licensee should be required to repay a portion of the benefit it received. We seek comment on these tentative conclusions. Alternatively, we seek comment on whether we should restrict the partitioning or disaggregation of such licenses when the partitionee or disaggregatee is not within the definition of an entity eligible for such special provisions, or whether, at some point (*e.g.*, a term of years), such restriction on partitioning and disaggregation be removed and the unjust enrichment provisions would apply. We also seek comment on how such unjust enrichment amounts should be calculated, especially in light of the difficulty of devising a methodology or formula that will differentiate the relative market value of the opportunities to provide service to various partitioned areas or to use the amount of spectrum disaggregated.

V. CONCLUSION

79. In this *Memorandum Opinion and Order*, we have carefully considered petitioners' concerns and, for the most part, determined that our prior decisions in this proceeding remain appropriate. We believe that our LMS rules will facilitate the rapid deployment of LMS and will be instrumental in the development of "smart highway" technology. At the same time, we have endeavored to fairly balance the diverse interests of all parties operating in the 902-928 MHz band. We have paid particular attention to the positions of Part 15 and amateur operators and we believe we have created a band plan and accompanying regulatory structure that will enable them to coexist with LMS systems without significant disruption to their operations.

VI. ADMINISTRATIVE MATTERS

80. *Ex Parte Rules -- Non-Restricted Proceeding.* This is a non-restricted notice and comment rulemaking proceeding. *Ex parte* presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed as provided in Commission Rules. *See generally* 47

¹³¹See *Adarand Constructors, Inc. v. Peña*, 115 S. Ct. 2097 (1995); *United States v. Virginia*, 116 S. Ct. 2264 (1996).

C.F.R. §§ 1.1202, 1.1203, 1.1206.

81. *Regulatory Flexibility.* The Initial and Final Regulatory Flexibility Analyses for this *Memorandum Opinion and Order*, as required by Sections 603 and 604, respectively, of the Regulatory Flexibility Act of 1980, 5 U.S.C. §§ 603-604, is set forth in Appendix B and Appendix C.

82. The Secretary shall send a copy of this *Memorandum Opinion and Order*, including the Final and Initial Regulatory Flexibility Analyses, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with paragraph 603(a) of the Regulatory Flexibility Act (Pub. L. No. 96-354, 94 Stat. 1164, 4 U.S.C. § 601, *et seq.* (1981)).

83. *Comment Dates.* Pursuant to applicable procedures set forth in Sections 1.415 and 1.419 of the Commission's rules, 47 C.F.R. §§ 1.415 and 1.419, interested parties may file comments on or before November 5, 1997, and reply comments on or before November 20, 1997. To file formally in this proceeding, you must file an original and four copies of all comments, reply comments, and supporting comments. If you want each Commissioner to receive a personal copy of your comments, you must file an original plus nine copies. You should send comments and reply comments to the Office of the Secretary, Federal Communications Commission, Washington, D.C. 20554. Comments and reply comments will be available for public inspection during regular business hours in the FCC Reference Center of the Federal Communications Commission, Room 239, 1919 M Street, N.W., Washington, D.C. 20554.

84. *Paperwork Reduction.* The *FNPRM* has been analyzed with respect to the Paperwork Reduction Act of 1995 and was found to impose no new or modified information collection requirement on the public. Implementation of any new or modified requirement will be subject to approval by the Office of Management and Budget, as prescribed by the Act.

VII. ORDERING CLAUSES

85. IT IS ORDERED that, pursuant to the authority of Sections 4(i), 302, 303(r), and 332(a)(2) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 302, 303(r), and 332(a), the rule changes specified in Appendix D are adopted.

86. IT IS FURTHER ORDERED that the rule changes set forth in Appendix D WILL BECOME EFFECTIVE 60 days after publication in the Federal Register.

87. IT IS FURTHER ORDERED that the petitions for reconsideration filed by the parties listed in Appendix A ARE GRANTED to the extent discussed herein, and ARE OTHERWISE DENIED.

88. IT IS FURTHER ORDERED that the petitions for reconsideration of the *Order on Reconsideration* filed by Pinpoint Communication Networks, Inc. and Teletrac License, Inc. ARE DENIED.

89. IT IS FURTHER ORDERED that the petition for reconsideration of the *Order on Reconsideration* filed by Amtech Corporation IS GRANTED to the extent specified herein and IS otherwise DENIED.

FEDERAL COMMUNICATIONS COMMISSION

A handwritten signature in black ink, appearing to read "William F. Caton". The signature is fluid and cursive, with a large, stylized initial "W".

William F. Caton
Acting Secretary

**APPENDIX A
PLEADINGS****Petitions for Reconsideration**

1. Ad Hoc Gas Distribution Utilities Coalition (Ad Hoc Gas)
2. AirTouch/Teletac
3. The American Radio Relay League, Inc. (ARRL)
4. AMTECH Corporation (Amtech)
5. CellNet Data Systems, Inc. (CellNet)
6. Connectivity for Learning Coalition
7. Hughes Transportation Management Systems (Hughes)
8. Intelligent Transportation Society of America (ITSA)
9. Metricom, Inc. and Southern California Edison Company (Metricom/SCE)
10. MobileVision, L.P. (MobileVision)
11. The New Jersey Highway Authority, the New Jersey Turnpike Authority, the New York State Thruway Authority, the Pennsylvania Turnpike Commission, the Metropolitan Transportation Authority Bridges and Tunnels, the Port Authority of New York and New Jersey, the South Jersey Transportation Authority and the Delaware River Port Authority (The Interagency Group).
12. The Part 15 Coalition
13. Pinpoint Communications (Pinpoint)
14. Rand McNally & Company (Rand McNally)
15. Safetran Systems Corporation (Safetran)
16. Southwestern Bell Mobile Systems, Inc. (SBMS)
17. Texas Instruments, Inc. and MFS Network Technologies, Inc. (TI/MFS)
18. Uniplex Corporation (Uniplex)
19. UTC

20. Wireless Transactions Corporation (WTC)

Oppositions

1. AirTouch/Teletrac
2. American Telemedicine Association (ATA)
3. AMTECH Corporation
4. Association of American Railroads (AAR)
5. CellNet Data Systems
6. Connectivity for Learning Coalition
7. Hughes Transportation Management Systems
8. Itron Inc. (Itron)
9. Metricom, Inc. and Southern California Edison
10. Mobilevision, L.P.
11. Part 15 Coalition
12. Pinpoint Communications, Inc.
13. Southwestern Bell Mobile Services
14. Texas Instruments, Inc. (TI)
15. Uniplex Corporation

Comments on Petitions for Reconsideration

1. Ad Hoc Gas Distribution Utilities Coalition
2. Alarm Industry Communications Committee (Alarm Industry)
3. American Association of State Highway and Transportation Officials
4. AT&T Corp. (AT&T)

5. Electronic Industries Association, Consumer Electronic Group (EIA)
6. Land Mobile Communications Council
7. Symbol Technologies, Inc. (Symbol Technologies)
8. Telecommunications Industry Association, User Premises Equipment Division, Wireless Consumer Communications Section (TIA)
9. UTC

Replies

1. Ad Hoc Gas Distribution Utilities Coalition
2. AirTouch/Teletrac
3. Amtech Corporation
4. AT&T Corp.
5. CellNet Data Systems, Inc.
6. The Connectivity for Learning Coalition
7. Electronic Industries Association, Consumer Electronics Group
8. Hughes Transportation Management Systems
9. Itron, Inc.
10. Mark IV Industries, Lt., I.V.H.S. Division (Mark IV)
11. Metricom, Inc., and Southern California Edison Company
12. MobileVision, L.P.
13. Part 15 Coalition
14. Pinpoint Communications
15. Southwestern Bell Mobile Systems
16. Telecommunications Industry Association, User Premises Equipment Division, Wireless Consumer Communications Section

17. Texas Instruments, Inc. and MFS Network Technologies, Inc. (TI/MFS)

18. UTC

Other Correspondence

1. Fred Bagg
2. Marcia Davis
3. Peter Fiset
4. Chase Hughes
5. Reed W. Jones
6. Faisal Khan
7. Dr. Jim Lansford
8. Rex Osborn
9. Matt Owens
10. Tom Wessel

APPENDIX B**INITIAL REGULATORY FLEXIBILITY ANALYSIS*****Further Notice of Proposed Rulemaking***

As required by the Regulatory Flexibility Act, *see* 3 U.S.C. § 603, the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the expected impact on small entities of the policies and rules proposed and adopted in the *Further Notice* section of this *Report and Order and Further Notice of Proposed Rulemaking (FNPRM)*. Written public comments are requested on the IRFA and must be filed by the deadlines for comments on the *Report and Order and Further Notice of Proposed Rulemaking*.

A. Reason for Action:

This *FNPRM* was initiated to secure comment on proposals for revising rules for the auction of multilateration Location and Monitoring Service (LMS) frequencies. Such changes to the rules for multilateration LMS would promote efficient licensing and enhance the service's competitive potential in the Commercial Mobile Radio Service marketplace. The adopted and proposed rules are based on the competitive bidding authority of Section 309(j) of the Communications Act of 1934, as amended, 47 U.S.C. § 309(j), which authorized the Commission to use auctions to select among mutually exclusive initial applications in certain services, including multilateration LMS.

B. Objectives of this Action:

The Omnibus Budget Reconciliation Act of 1993 (Budget Act), Pub. L. No. 103-66, Title VI, § 6002, and the subsequent Commission actions to implement it are intended to establish a system of competitive bidding for choosing among certain applications for initial licenses, and to carry out statutory mandates that certain designated entities, including small businesses, are afforded an opportunity to participate in the competitive bidding process and in the provision of multilateration LMS services.

C. Legal Basis:

The proposed action is authorized under the Budget Act and in Sections 4(i), 303(r), and 309(j) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(r) and 309(j).

D. Reporting, Recordkeeping, and Other Compliance Requirements:

The Commission does not anticipate any additional reporting or recordkeeping requirements resulting from this *FNPRM*.

E. Federal Rules Which Overlap, Duplicate or Conflict With These Rules:

None.

F. Description, Potential Impact, and Number of Small Entities Involved:

The *FNPRM* would establish certain multilateration LMS spectrum blocks for bidding by smaller entities as well as larger entities, and would grant special provisions to certain eligible entities bidding within those blocks. The Commission is required to estimate in its Final Regulatory Flexibility Analysis the number of small entities to which a rule will apply, provide a description of such entities, and assess the impact of the rule on such entities. To assist the Commission in this analysis, commenters are requested to provide information regarding how many total entities, existing and potential, would be affected by the proposed rules in the *FNPRM*. In particular, the Commission seeks estimates of how many such entities will be considered small businesses.

Geographic Partitioning and Spectrum Disaggregation. The partitioning and disaggregation rule changes proposed in this proceeding will affect all small businesses which avail themselves of these rule changes, including small businesses currently holding multilateration LMS licenses who choose to partition and/or disaggregate and small businesses who may acquire licenses through partitioning and/or disaggregation.

The Commission is required to estimate in its Final Regulatory Flexibility Analysis the number of small entities to which a rule will apply, provide a description of such entities, and assess the impact of the rule on such entities. To assist the Commission in this analysis, commenters are requested to provide information regarding how many total entities, existing and potential, would be affected by the proposed rules in the *FNPRM*. In particular, the Commission seeks estimates of how many such entities will be considered small businesses. As explained in the Final Regulatory Flexibility Analysis for this *Report and Order*, the Commission is utilizing the SBA definition applicable to radiotelephone companies, *i.e.*, an entity employing less than 1,500 persons.¹ The Commission seeks comment on whether this definition is appropriate for multilateration LMS licensees in this context. Additionally, the Commission requests each commenter to identify whether it is a small business under this definition. If a commenter is a subsidiary of another entity, this information should be provided for both the subsidiary and the parent corporation or entity.

The number of small entities that will be affected is unknown. New entrants could obtain multilateration LMS licenses through the competitive bidding procedure, and take the opportunity to partition and/or disaggregate a license or obtain an additional license through partitioning or disaggregation. Additionally, entities that are neither incumbent licensees nor geographic area licensees could enter the market by obtaining a multilateration LMS license through partitioning or disaggregation. The Commission cannot estimate how many licensees or potential licensees could take the opportunity to partition and/or disaggregate a license or obtain a license through partitioning and/or disaggregation, because it has not yet determined the size or number of multilateration LMS licenses that will be granted in the future. Given the fact that nearly all wireless communications companies have fewer than 1,000 employees, and that no reliable estimate of the number of future multilateration LMS licensees can be made, the Commission assumes for purposes of this IRFA that all of the licenses will be awarded to small businesses. It is possible that a significant number of the potential licensees who could take the opportunity to partition and/or disaggregate a license or who could obtain a license through partitioning and/or disaggregation will be small businesses.

¹ 13 C.F.R. § 121.201, Standard Industrial Classification Code 4812.

G. Any Significant Alternatives Minimizing the Impact on Small Entities Consistent with the Stated Objectives:

With respect to partitioning and disaggregation, the Commission tentatively concludes that unjust enrichment provisions should apply when a licensee has benefitted from the small business provisions in the auction rules and applies to partition or disaggregate a portion of the geographic license area to another entity that would not qualify for such benefits. The alternative to applying the unjust enrichment provisions would be to allow an entity who had benefitted from the special bidding provisions for small businesses to become unjustly enriched by partitioning or disaggregating a portion of their license area to parties that do not qualify for such benefits.

The *FNPRM* proposes certain provisions for smaller entities designed to ensure that such entities have the opportunity to participate in the competitive bidding process and in the provision of multilateration LMS services. Any significant alternatives presented in the comments will be considered.

IRFA Comments: We request written public comment on the foregoing Initial Regulatory Flexibility Analysis. Comments must have a separate and distinct heading designating them as responses to the IRFA and must be filed by the deadlines provided in this *Report and Order/Further Notice of Proposed Rulemaking*.

APPENDIX C
FINAL REGULATORY FLEXIBILITY ANALYSIS

Report and Order

As required by Section 603 of the Regulatory Flexibility Act, 5 U.S.C. § 603 (RFA), the Commission has prepared a Final Regulatory Flexibility Analysis for this *Memorandum Opinion and Order*.

A. Need for and purpose of the action:

The revised rules adopted in this *Memorandum Opinion and Order* will enhance use of the 902-928 MHz band for the Location and Monitoring Service. The revised rules will create a more stable environment for LMS licensees and will provide much needed flexibility for operators of such systems. The two changes made to the LMS rules in this item (1) change the basis for wide-area licensing of LMS systems to EAs rather than MTAs, and (2) add schools, libraries and rural health care providers to the list of entities exempt from the antenna height and operating power requirements of the Part 15 safe harbor.

B. Issues raised in response to the IRFA:

No comments were submitted in response to the IRFA.

C. Description and number of small entities involved:

The Commission has not adopted a definition of small business specific to LMS systems, which are defined in Section 90.7 of the Commission's Rules. Accordingly, we will use the SBA's definition applicable to radiotelephone companies, *i.e.*, an entity employing fewer than 1,500 persons. We anticipate that most LMS licensees will fit the definition of small business provided by the SBA. No auctions have been held for the LMS service. The Commission expects to award three licenses in each of 176 EAs or EA-like areas, for a total of 528 licenses.

D. Reporting, recordkeeping and other compliance requirements:

The rules adopted in this *Memorandum Opinion and Order* do not impose any additional reporting, recordkeeping, or other compliance requirements.

E. Steps taken to minimize burdens on small entities:

This *Memorandum Opinion and Order* concludes that the relevant geographic areas for multilateration LMS licenses should be based on U.S. Department of Commerce Bureau of Economic Analysis Economic Areas (EAs) rather than Major Trading Areas (MTAs). The record indicates that existing and planned multilateration systems better approximate an EA than the geographically larger MTA. Use of smaller geographic units could ultimately result in a more diverse group of prospective bidders by creating more opportunities for small businesses. The *Memorandum Opinion and Order* also modifies the "Part 15 safe harbor" by expanding the list of entities exempt from applicable height and power restrictions, to include health care providers in rural areas, schools and libraries. In many instances, the rooftop antennas of these entities would not fit within the parameters of the safe harbor.

The record of this proceeding indicates that such institutions use Part 15 technology as a low-cost means to connect to the Internet and other valuable on-line resources; this rule change would facilitate their ability to do so without raising concerns about interference to LMS providers in the same area.

F. Significant alternatives considered and rejected:

The *Memorandum Opinion and Order* considers the remaining issues raised in petitions for reconsideration of the *Report and Order* in PR Docket No. 93-61 that established licensing and operational rules for the Location and Monitoring Services (LMS). An *Order on Reconsideration* adopted in March 1996 resolved a limited set of issues relating to rights and obligations of existing multilateration LMS licensees. This *Memorandum Opinion and Order* resolves the remaining issues raised by petitioners. The *Memorandum Opinion and Order* concludes that restrictions on the ability of multilateration LMS licensees to offer interconnected service should be maintained to minimize interference between LMS and Part 15 and amateur operations. The *Memorandum Opinion and Order* also denies requests that antenna height and power limitations for non-multilateration operators be either relaxed or further restricted, and denies a request that we adopt a blanket authorization procedure for extensive non-multilateration LMS systems licensed to local government or public safety eligibles.

In addition, the *Memorandum Opinion and Order* denies requests to modify the "safe harbor" provisions for Part 15 devices and amateur operators, and denies requests to extend the definition of the safe harbor to apply to claims of interference by non-multilateration systems. The *Memorandum Opinion and Order* does, however, adopt a rule provision specifically including schools, libraries and rural health care providers within the safe harbor regardless of their antenna height and operating power. The item also denies requests to change the band plan for LMS, but does conclude that multilateration LMS systems will be licensed on an EA basis rather than an MTA basis. Finally, the *Memorandum Opinion and Order* denies requests that wideband forward links be prohibited.

G. Report to Congress:

The Commission shall send a copy of this Final Regulatory Flexibility Analysis with this *Memorandum Opinion and Order* in a report to Congress pursuant to Section 251 of the Small Business Regulatory Enforcement Fairness Act of 1996, 5 U.S.C. § 801(a)(1)(A). A copy of this Regulatory Flexibility Analysis will also be published in the Federal Register.

**APPENDIX D
RULE CHANGES**

Part 90 of Chapter I of Title 47 of the Code of Federal Regulations is amended as follows:

PART 90 - PRIVATE LAND MOBILE RADIO SERVICES

1. The authority citation for Part 90 continues to read as follows:

AUTHORITY: Secs. 4, 251-2, 303, 309, and 332, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 251- 2, 303, 309 and 332, unless otherwise noted.

2. The heading for Subpart M of Part 90 is revised to read "Intelligent Transportation Systems Radio Service."

3. Section 90.7 is amended by revising the definition for "EA-based or EA license" to read as follows:

§ 90.7 Definitions.

* * * * *

EA-based or EA license. A license authorizing the right to use a specified block of SMR or LMS spectrum within one of the 175 Economic Areas (EAs) as defined by the Department of Commerce Bureau of Economic Analysis. The EA Listings and the EA Map are available for public inspection at the Wireless Telecommunications Bureau's public reference room, Room 5608, 2025 M Street, NW, Washington, DC 20554 and Office of Operations--Gettysburg, 1270 Fairfield Road, Gettysburg, PA 17325.

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4. Section 90.155 is amended by revising paragraph (d) to read as follows:

§ 90.155 Time in which station must be placed in operation.

* * * * *

(d) Multilateration LMS systems authorized in accordance with Section 90.353 must be constructed and placed in operation within twelve (12) months from the date of grant or the authorization cancels automatically and must be returned to the Commission. EA-licensed multilateration LMS systems will be considered constructed and placed in operation if such systems

construct a sufficient number of base stations that utilize multilateration technology (see paragraph (e) of this section) to provide multilateration location service to at least 1/3 of the counties in the EA.

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5. Section 90.210 is amended by revising paragraph (k)(3) and adding paragraph (k)(6) to read as follows:

§ 90.210 Emission masks.

* * * * *

(k) * * *

(3) *Other transmitters.* For all other transmitters authorized under Subpart M, the peak power of any emission shall be attenuated below the power of the highest emission contained within the licensee's LMS sub-band in accordance with the following schedule:

- (i) On any frequency within the authorized bandwidth: Zero dB;
- (ii) On any frequency outside the licensee's LMS sub-band edges: $55+10\log(P)$ dB where (P) is the highest emission (watts) of the transmitter inside the licensee's LMS sub-band.

* * * * *

(6) The LMS sub-band edges for non-multilateration systems for which emissions must be attenuated are 902.00, 904.00, 909.5 and 921.75 MHz.

* * * * *

6. Section 90.350 is revised by replacing the two occurrences of the phrase "Transportation Infrastructure Radio Service" with "Intelligent Transportation Systems Radio Service."

7. Section 90.353 is amended by revising paragraphs (d), (e) and (f) and by adding paragraph (i) to read as follows:

§ 90.353 LMS operations in the 902-928 MHz band.

* * * * *

(d) Multilateration LMS systems will be authorized on a primary basis within the bands 904-909.75 MHz and 921.75-927.25 MHz. Additionally, multilateration and non-multilateration systems

will share the 919.75-921.75 MHz band on a co-equal basis. Licensing will be on the basis of Economic Areas (EAs) for multilateration systems, with one exclusive EA license being issued for each of these three sub-bands. Except as provided in paragraph (f) of this section, multilateration EA licensees may be authorized to operate on only one of the three multilateration bands within a given EA. Additionally, EA multilateration LMS licenses will be conditioned upon the licensee's ability to demonstrate through actual field tests that their systems do not cause unacceptable levels of interference to 47 CFR Part 15 devices.

(e) Multilateration EA-licensed systems and grandfathered AVM systems (see Section 90.363 of this Part) are authorized on a shared basis and must cooperate in the selection and use of frequencies in accordance with Section 90.173(b).

(f) Multilateration EA licensees may be authorized to operate on both the 919.75-921.75 MHz and 921.75-927.25 MHz bands within a given EA (see Section 90.209(b)(10) of this Part).

* * * * *

(i) Non-multilateration LMS licenses will be issued on a site-by-site basis, except that municipalities or other governmental operatives may file jointly for a non-multilateration license covering a given U.S. Department of Commerce Bureau of Economic Analysis Economic Area (EA). Such an application must identify all planned sites. After receiving the license, the non-multilateration EA licensee must notify the Commission if sites are deleted or if new sites are added, before those sites may be put into operation.

* * * * *

8. Section 90.359 is amended to read as follows:

§ 90.359 Field strength limits for EA-licensed LMS systems.

EA-licensed multilateration systems shall limit the field strength of signals transmitted from their base stations to 47 dBuV/m at their EA boundary.

9. Section 90.361 is amended to read as follows:

§ 90.361 Interference from Part 15 and Amateur operations.

Operations authorized under Parts 15 and 97 of this chapter may not cause harmful interference to LMS systems in the 902-928 MHz band. These operations will not be considered to be causing harmful interference to a multilateration LMS system operating in one of the three EA sub-bands (see Section 90.357(a)) if they are non-video links operating in accordance with the provisions of Parts 15 or 97 of this chapter and at least one of the following conditions are met:

(a) It is a field disturbance sensor operating under Section 15.245 of this chapter and it is not operating in the 904-909.750 or 919.750-928.000 MHz sub-bands; or

(b) It does not employ an outdoor antenna; or

(c) If it does employ an outdoor antenna, then if:

(1) The directional gain of the antenna does not exceed 6dBi, or if the directional gain of the antenna exceeds 6 dBi, it reduces its transmitter output power below 1 watt by the proportional amount that the directional gain of the antenna exceeds 6 dBi; and

(2) Either:

(i) The antenna is 5 meters or less in height above ground; or

(ii) The antenna is more than 5 meters in height above ground but less than or equal to 15 meters in height above ground and either:

(A) Adjusts its transmitter output power below 1 watt by $20 \log (h/5)$ dB, where h is the height above ground of the antenna in meters; or

(B) Is providing the final link for communications of entities eligible under subpart B or C of this Part, or is providing the final link for communications of health care providers that serve rural areas, elementary schools, secondary schools or libraries.